

FACT SHEET

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Water Conservation

In order to meet the present and future needs of the population and ecosystems in which we live, water conservation must become an integral part of every comprehensive energy and water management plan. The Air Force must use water resources responsibly in order to ensure that water supplies for the future are both sustainable and renewable. In order to achieve this goal, strategic conservation can help extend the value and life of the infrastructure used in both water supply and wastewater treatment when properly designed and implemented. In areas where water is plentiful, maximizing the efficient use of water resources can result in both monetary and environmental benefits for the Air Force community.

The Federal Energy Management Program estimates that the federal sector alone uses an estimated 300-400 million gallons of water per day, of which the Air Force uses approximately half (145 million gallons per year). For this reason, the Air Force has implemented measures, as required by such legislation as the Energy Policy Act of 1992 and Executive Order (EO) 13123, to determine the most cost-effective ways to save water, energy, and money.

Conservation Strategies

In response to the federal sector water demands, the Department of Energy (DOE) developed the *Guidance to Establish Water Efficiency Improvement Goal for Federal Agencies (Guidance)*. DOE's Guidance sets an implementation goal requiring federal agencies to develop and establish a water management plan (WMP) by 2005 and biannually sets a minimum requirement for the implementation of the listed best management practices (BMP).

The BMPs that are addressed in the Guidance include public information and education programs, distribution system audits, leak

detection and repair, water efficient landscaping, toilets and urinals, faucets and shower heads, boiler/steam systems, single-pass cooling systems, cooling tower management, miscellaneous high water-using processes, and water reuse and recycling. Each BMP has two major portions: operations and maintenance (O&M) options, and retrofit and replacement (R&R) options. All O&M options must be accomplished and all R&R cost-effective options must be executed in order for a BMP to be considered implemented.

Water conservation is an integral part of the Air Force's energy and pollution prevention strategies. The Air Force's objective is to effectively and efficiently reduce water use without compromising military readiness, safety, mission effectiveness, or quality of life. As a result of the DOE Guidance and specific BMP requirements, the Air Force Civil Engineer Support Agency (AFCESA) developed the *Air Force Water Conservation Guidebook*

(*Guidebook*), which details conservation efforts and strategies. The Guidebook was developed with the intent of reducing the compliance workload for installations by including lists of assumptions,

methodologies, and formulas; providing water use calculation methodology by category; and allowing a standardized format for WMPs and reporting requirements.

The Guidebook outlines a systematic method for assuring compliance with EO 13123 and DOE requirements and provides a complete and effective method for preparing a WMP. The following information must be contained within the WMP, at a minimum, to meet the compliance requirements:



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- √ Utility information including contacts for all water and wastewater utilities, rate schedules for facility type, copies of water and sewage bills, financial and technical assistance availability information, and contact for water/sewage disbursement agency
- √ Facility information by facility category, as opposed to walk-through auditing
- √ Emergency response information including minimum water needs in case of an emergency, and reduction of water during a drought or water shortage
- √ Comprehensive planning information including plans for informing the installation and the public of the base's water efficiency priorities, and actions that the base will take to ensure BMPs are considered during early planning stages for renovation and new construction projects.

The Guidebook provides detailed steps for completing the WMP. These steps entail the collection of background data, categorization and investigation of the installation's water use, calculation of the incremental cost of water and sewage disposal, investigation of BMPs for potential implementation, implementation steps, and program monitoring over time. Combining the Guidebook with knowledge of water conservation, installations will be able to ensure a cost-effective and cost-efficient water system in the future.

Water Tomorrow...

In the ever-changing world of environmental regulations, Air Force facilities should allow flexibility in their plans to accomplish the goal of water conservation for future needs of the nation. AFCESA's Guidebook provides the information necessary to comply with federal regulations and takes a step-by-step approach to implementing a successful WMP, which will ultimately provide the installation with a blueprint for meeting and/or exceeding long-term water conservation requirements.

Additional Information

Contact PROACT at DSN 240-4214 or by email at pro-act@brooks.af.mil, or visit the following websites:

1. AFCESA's Water Conservation Guidebook: <http://www.afcesa.af.mil/Directorate/CES/Civil/Water/AF%20Water%20Conservation%20Guidebook.pdf>
2. DOE's Guidance to Establish Water Efficiency Improvement Goal for Federal Agencies: <http://www.eren.doe.gov/femp/resources/waterguide.html>
3. EPA's Office of Ground Water and Drinking Water: <http://www.epa.gov/safewater/>

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